

OUT 65228 25X1

Declassification Review by NGA

R 272051Z MAY 68
FM NPIC WASH DC
TO DIA WASH DC
BT

1968 MAY 27 21 42Z

SECRET

CITE NPIC 3879.

25X1

ATTENTION:

25X1

SUBJECT: EVALUATION OF GIANT SCALE MISSION S012

1. QUALITY SUMMARY: MISSION S012 PROVIDES THE BEST RESOLUTIONS TO DATE FROM A GIANT SCALE MISSION. THIS IMPROVED RESOLUTION CANNOT BE ATTRIBUTED TO ANYTHING SPECIFIC. CLOUDS AND HEAVY HAZE ARE A MAJOR DEGRADING FACTOR ON THIS MISSION; HOWEVER, ISOLATED CLEAR WEATHER AREAS ARE PHOTOGRAPHED WHICH ARE OF GOOD QUALITY. THE INTERPRETATION SUITABILITY IN THESE CLEAR AREAS IS CONSIDERED FAIR TO GOOD. RESOLUTION FIGURES ARE EMPHIRICAL ESTIMATES BASED ON EVALUATION OF SIMILAR SENSORS AND IMPLY A BAR AND A SPACE. THUS, A FIGURE OF

GROUND RESOLUTIONS ARE LOCATED NEAR NADIR AND ARE ESTIMATED FROM ORIGINAL NEGATIVE:

- A. RIGHT OPERATION OBJECTIVE CAMERA
 - B. LEFT OPERATIONAL OBJECTIVE CAMERA
 - C. RIGHT TECHNICAL OBJECTIVE CAMERA
 - D. LEFT TECHNICAL OBJECTIVE CAMERA - NO ESTIMATE (SEE 4.A)
2. CLOUDS OBSCURE OR SEVERELY DEGRADE 35 PERCENT OF THE IMAGERY.
3. GIANT SCALE MISSION S012 WAS FLOWN 5 MAY 1968 AND WAS PRO-
CESSED AT [REDACTED] THE MISSION EMPLOYED THE USUAL SENSORS
THE ONLY MATERIALS EVALUATED ARE THE ORIGINAL NEGATIVES FROM THE
OPERATIONAL AND TECHNICAL OBJECTIVE CAMERAS. THE TERRAIN OBJECTIVE
CAMERA MATERIAL WAS USED TO DETERMINE THE AREAS OF 80 PERCENT CLOUD
FREE PHOTOGRAPHY.

4. ANALYSIS OF MATERIAL:

A. TECHNICAL OBJECTIVE CAMERA MATERIAL: APPROXIMATELY 55 PERCENT OF THE PHOTOGRAPHY WAS ACQUIRED ABOVE 30 DEGREES OB-
LIQUITY. MOST OF THE MATERIAL IS SEVERELY DEGRADED BY CLOUDS
AND HAZE. ONLY THE RIGHT CAMERA HAS SUFFICIENT CULTURAL IMAGERY
TO ESTIMATE GROUND RESOLUTION. GROUND RESOLUTION IS ESTIMATED
TO BE [REDACTED] FOR THE RIGHT CAMERA. THERE ARE MINUS DENSITY
STREAKS, ASSOCIATED WITH THE PLATEN CONFIGURATION, SPACED 0.25
INCHES APART AND PARALLEL TO THE MAJOR AXIS OF THE FILM. STATIC
CAN BE DETECTED ALONG BOTH EDGES OF THE MATERIAL FROM BOTH
CAMERAS. BANDING, APPARENTLY INDUCED BY VIBRATION, CAN BE
DETECTED THROUGHOUT THE MISSION. WHERE CLOUDS AND ATMOS-
PHERICS ARE NOT A FACTOR, THE DENSITY AND CONTRAST OF THE
NEGATIVES IS SATISFACTORY.

(1) LEFT TECHNICAL OBJECTIVE CAMERA (AL), S/N 64-07:
A PLUS DENSITY STREAK 2.0 INCHES FROM THE TITLED EDGE OF
FILM IS PRESENT INTERMITTENTLY THROUGHOUT THE MISSION.
THERE ARE RANDOM MINUS DENSITY STREAKS PARALLEL TO THE
MAJOR AXIS OF THE FILM THROUGHOUT THE ENTIRE MISSION.
CAMERA OFF/ON WITH ASSOCIATED FOGGED AREAS, INDUCED BY
MINOR LIGHT LEAKS, OCCUR BETWEEN THE FOLLOWING FRAMES:
98/99, 328/329, 477/478, 623/624, AND 680/681. FRAME
997 IS THE LAST TITLED FRAME IN THE LEFT TECHNICAL
OBJECTIVE MATERIAL.

(2) RIGHT TECHNICAL OBJECTIVE MATERIAL (AR), S/N 64-20:
TWO PLUS DENSITY STREAKS LOCATED 2.0 INCHES FROM EACH EDGE
OF FILM ARE PRESENT INTERMITTENTLY THROUGHOUT THE MISSION.
THERE ARE RANDOM MINUS DENSITY STREAKS PARALLEL TO THE MAJOR
AXIS THROUGHOUT. CAMERA OFF/ONS OCCUR BETWEEN THE FOLLOWING
FRAMES: 118/119, 333/334, 470/471, AND 710/711. FRAME 1027
IS THE LAST TITLED FRAME OF THE RIGHT TECHNICAL OBJECTIVE

CROSS DISTRIBUTION	
NSC/OF	OFFICE PI
LE	25X1
BEST	CABLE 25X1 24-9
FROM THE	PAB/AD
3	SECUR 25X1
	TSSG
	PSG/OC
	RRD
	REPRO
	AID
	25X1
	PROD
	SCIEN
	WEST
	EAST
	MES
	FGM
	LAS
	DIA-XA4
	SPAD
	DIA-A
	25X1
	OMX

ADVANCE CY
SANITIZED
WITH TEXT

25X1

(1) LEFT OPERATIONAL OBJECTIVE CAMERA (CL), S/N 4005:
THE TIME TRACK IS IMAGED JUST INSIDE THE FORMAT AREA. THE DOTS BEGIN 0.55 INCH AFTER START OF SCAN FOR EACH FRAME AND EXTEND 0.75 INCH BEYOND THE END OF SCAN. CAMERA OFFONS OCCUR BETWEEN FRAMES 1040/1041 AND 1846/1847. MYLAR TAPE AND/OR HEAT SPLICES ARE NOTED BETWEEN FRAMES 522,523, 1044/1045, 1566/1567, AND 2088/2089. THE END OF FRAME 0005 AND THE BEGINNING OF FRAME 0006 CONTAIN BLACK SMUDGES THAT APPEAR TO BE THE RESULT OF IMPROPER TITLE ERASURE. THERE ARE MORE RAIL SCRATCHES PRESENT IN THE BORDER AREAS THAN THE USUAL NUMBER OBSERVED ON PREVIOUS MISSIONS. MINUS DENSITY STREAKS ARE PRESENT 0.74 AND 1.39 INCHES FROM AND PARALLEL TO THE TITLED EDGE OF THE FILM THROUGHOUT. BLISTERS AND EMULSION LIFTS ARE NOTED ON MANY FRAMES OF THE MISSION. THE NUMBER OF MINUS DENSITY STREAKS INCREASED NOTICEABLY AS THE MISSION PROGRESSED AND PARTICULARLY AFTER FRAMES WITH NUMEROUS EMULSION LIFTS AND BLISTERS (EXAMPLE FRAME 1188). AN UNSHARP PLUS DENSITY SPOT, APPROXIMATELY 0.25 INCH IN DIAMETER, IS PRESENT ON FRAME 1231 AT THE TITLED EDGE OF THE FORMAT AND 3.40 INCHES FROM THE END OF SCAN. IT PROGRESSES ACROSS THE FORMAT AND SLIGHTLY TOWARD THE END OF SCAN WITH EACH SUCCESSIVE FWD FRAME THROUGH FRAME 1249, WHILE TRAVERSING APPROXIMATELY ONE-HALF OF THE FORMAT. A SIMILAR SPOT IS PRESENT ON THE AFT FRAMES 1298-1350. FRME 1298 HAS THE SPOT 2.80 INCHES FROM THE END OF SCAN AND AT THE TITLED EDGE OF THE FORMAT. THE ADVANCE ON EACH AFT FRAME THROUGH FRAME 1346 IS ACROSS THE FORMAT AND SLIGHTLY AWAY FROM THE END OF SCAN. ON FRAMES 1346, 1348, AND 1350, THE SPOT APPEARS ALONG THE NON-TITLED EDGE OF THE FORMAT AND 3.8, 2.3 AND 0.75 INCHES RESPECTIVELY FROM THE END OF SCAN. THE LAST TITLED FRAME OF THE LEFT OPERATIONAL OBJECTIVE MATERIAL IS 2114.

(2) RIGHT OPERATIONAL OBJECTIVE CAMERA (CR), S/N 4030:
THE TIME TRACK IS NOT IMAGED FOR FRAMES 0001-0027, THE FIRST 2.4 INCHES OF FRAME 0028, FRAME 1044, THE FIRST 8.0 INCHES OF FRAME 1045 AND THE FIRST 4.5 INCHES OF FRAME 1851. THE TIMING DOTS OF ALL OTHER FRAMES BEGIN 0.62 INCH AFTER THE START OF SCAN AND EXTEND 0.85 INCH BEYOND THE END OF SCAN. CAMERA OFF/ONS OCCUR BETWEEN FRAMES 1043/1044, AND 1850/1851. THE LATTER CAMERA OFF/ON FRAMES ARE OVERLAPPED 0.75 INCH. MYLAR TAPE AND/OR HEAT SPLICES ARE NOTED BETWEEN FRAMES 521/522/523, 1043/1044/1045, 1565/1566/1567, AND 2087/2088/2089. MINUS DENSITY STREAKS ARE PRESENT 0.90 AND 0.29 INCHES FROM AND PARALLEL TO THE NON-TITLED EDGE OF THE FILM THROUGHOUT. TWO PLUS DENSITY STREAKS, PARALLEL TO THE MINOR AXIS, ARE PRESENT IN FRAME 0002. NUMEROUS (EXCESS OF 200) MINUS DENSITY SPOTS ARE NOTED IN FRAME 0142 WITH A FEW (LESS THAN 50) OCCURRING IN FRAMES 0143 AND 0144. THEIR ELIPTICAL SHAPE IN THE DIRECTION OF FILM TRAVEL INDICATES THAT THEY MAY HAVE BEEN CAUSED BY A CHEMICAL SPLASH THAT RESTRICTED DEVELOPMENT. A PLUS DENSITY SPOT, SIMILAR TO THE ONE REPORTED WITH THE LEFT CAMERA MATERIAL, OCCURS ON FRAMES 517-539 (ODD NUMBERED), AND 548-572 (EVEN NUMBERED), BUT REMAINS WITHIN 2.0 INCHES FROM THE START OF SCAN AND TRANVERSES THE FORMAT IN EACH CASE. THE PLUS DENSITY SPOT IS ALSO PRESENT ON AFT FRAMES 1355-1371, AND 1453-1469, BUT REMAINS ALONG ALONG THE NON-TITLED EDGE OF THE FORMAT. IT ADVANCES TOWARD THE END OF SCAN WITH

EACH SUCCESSIVE FRAME WITHIN EACH FRAME GROUP. THE LAST TITLED FRAME OF THE RIGHT OPERATIONAL OBJECTIVE MATERIAL IS 2119.

5. MISSION RECORDER SYSTEM (MRS) CORRELATION TO FILM:

A. THE MRS TRANSMISSION AS RECEIVED BY NPIC, APPEARS SATISFACTORY. THE MRS DATA WAS USED TO DEVELOP A MISSION PLOT.

B. TECHNICAL OBJECTIVE CAMERAS: A FAIR CORRELATION WAS ACHIEVED FOR BOTH CAMERAS. THE CLOCK OF THE LEFT CAMERA SHOWED A MINUS 1 TO 3 SECOND BIAS THROUGHOUT THE MISSION. ONE LINE OF DATA WAS ADDED IN THE MRS BETWEEN FRAMES 416 AND 451 AND THROUGH THE REMAINDER OF THE MISSION THE MRS FRAME NUMBER IS ONE HIGHER THAN THE TITLED FRAME NUMBER. TWO ADDITIONAL LINES OF DATA ARE RECORDED AT THE END OF THE MISSION. THE CLOCK OF THE RIGHT CAMERA SHOWED A PLUS 1 TO 5 SECOND BIAS THROUGHOUT THE MISSION. BETWEEN FRAMES 711 AND 1027 (END OF MISSION) TWO LINES OF DATA ARE DROPPED IN THE MRS.

C. OPERATIONAL OBJECTIVE CAMERAS: THE CORRELATION FOR THE LEFT CAMERA IS CONSIDERED GOOD AND THE CORRELATION OF THE RIGHT CAMERA IS POOR. THE CLOCK OF THE LEFT CAMERA SHOWED A PLUS 1 TO 7 SECOND BIAS THROUGHOUT THE MISSION. ON THE RIGHT CAMERA, CORRELATION OF THE MRS COULD ONLY BE MADE TO WITHIN TWO FRAME NUMBERS WITH THE FILM FRAME NUMBER. THIS IS BECAUSE THE CAMERA CLOCK HAS A VARIABLE BIAS.

GP-1

S E C R E T

25X1

END OF MESSAGE